Literature Data on Salmonid Response to Gas Supersaturation and Ancillary Factors

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by

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ABSTRACT

Jensen, J. O. T., A. N. Hally, and J. Schnute. 1985. Literature data on salmonid response to gas supersaturation and ancillary factors. Can. Data Rep. Fish. Aquat. Sci. 501: 35 p.

A literature search for quantitative data pertaining to salmonid response (effective time to 50% mortality, ET50) to total gas pressure (TGP%) yielded 621 records from 23 publications. Two subsets of these data were compiled. Data subset 1, comprising 171 records, provided information on ET50 among juvenile salmonids exposed to excess TGP% and ancillary variables including water depth, temperature, fish length, and barometric pressure. A second file, data subset 2, included 81 of the original records; this subset comprised those records from subset 1 for which information also was available on dissolved oxygen and nitrogen levels (or oxygen/nitrogen ratios) as a further ancillary variable. These data are used by Schnute, Jensen, and Alderdice (MS) to model implicit multivariable relations between ET50 and TGP% as influenced by the ancillary variables.

RÉSUMÉ

Jensen, J. O. T., A. N. Hally, and J. Schnute. 1985. Literature data on salmonid response to gas supersaturation and ancillary factors. Can. Data Rep. Fish. Aquat. Sci. 501: 35 p.

Une étude documentaire de 23 publications a produit 621 données quantitatives relatives à la réaction de salmonidés (temps réel à la mortalité de 50% - TR50) à la pression totale des gaz (PTG %). Ces données ont été divisées en deux sous-séries. La première, regroupant 171 entrées, a fourni de l'information sur le TR50 chez les salmonidés juvéniles exposés à une PTG (%) excessive et à des variables accessoires y compris la profondeur et la température de l'eau, la longueur des poissons et la pression barométrique. La seconde sous-série comprenait 81 des entrées originelles et les données de la première sous-série fournissant des valeurs sur les taux d'azote et d'oxygène dissous (ou la proportion oxygène/azote) à titre de variable auxiliaire supplémentaire. Ces données ont été utilisées par Schnute, Jensen et Alderdice (MS) pour la modélisation des relations implicites entre le TR50 et la PTG % en fonction des variables auxiliaires.

The need for a quantitative approach to estimating safe levels of dissolved gas supersaturation (excess total gas pressure, TGP%) for salmonids prompted a literature search. Examination of the literature suggested that the following relation was likely to be appropriate:

ET50 = f(TGP% + ancillary variables)

where ET50 is the effective time to 50% mortality among individuals exposed to various levels of TGP%, and where the relation is modified by the combination of levels of ancillary variables including water depth, water temperature, fish size, barometric pressure, and dissolved oxygen and nitrogen.

Useful data were found in 23 publications (Table 1). From these, 621 individual records were tabulated (Table 2). Each record consists at most of the following information, obtained either directly from the original reports or indirectly by calculation as described below:

1. Record number. Records are sorted by author code (Table 1) and for convenience are numbered sequentially.

2. Author code. The numbers to the left of the decimal point (1-23) (author code, Tables 2, 5 and 6) correspond to the codes in Table 1, while the numbers to the right of the decimal point refer to subgroups of data with a common set of physical exposure conditions.

3. Species code (code 1-4).
   1- chinook salmon (Oncorhynchus tshawytsha)
   2- coho (O. kisutch)
   3- sockeye (O. nerka)
   4- steelhead trout (Salmo gairdneri)

4. Life stage. Three categories were established (code 1-3)
   1- larval (eggs and alevins)
   2- juvenile (fry and smolts)
   3- adult

5. Fish length (mm). Reported as fork length in some papers (author codes 2, 3, 12, 14, 15, 18, 19, 22, and 23); where the other papers did not specify the type of length measurement, fork length is assumed to apply.

6. Fish weight (gm).

7. Water temperature (°C)

8. Barometric pressure (BP, mm Hg). If not reported in the original paper, BP was calculated, based on the altitude of the test site at assumed values of 760 mm Hg (sea level) and air temperature of 20°C, using the relation (Colt, 1980)

   Log(BP)=2.8808-[Altitude(m)/19748.2].

9. Water depth (m). The maximum depths available to fish are listed in Tables 2, 5 and 6. Table 3 lists ranges (minimum and maximum) of depths available; in some instances fish are held in cages at various depths below the water surface.

10. Mortality (%). Data were taken either directly from the publications as reported or were derived from figures. Where possible, ET50 values were determined using plots of log (exposure time) versus probit (mortality). In particular, exposure time is restricted to estimates of ET50 in Tables 5 and 6.

11. Exposure time (hr).

12. Total gas pressure (TGP% (% saturation)). The equation considered most appropriate for calculating TGP% is:

$$TGP\% = \frac{BP + \Delta P}{BP} \times 100$$

where ΔP is the difference between total gas pressure in water minus the total gas pressure in air. In five papers (author codes 14, 17, 19, 21, and 22) vapour pressure (VP) had been subtracted from the numerator to calculate TGP%. To standardize the reporting of TGP%, VP was added back to the numerator and TGP% recalculated for these records. Finally, when not reported, TGP% was calculated, where possible, using the relation:

$$TGP\% = (0.20946)(O_2\%) + (.79018)(N_2\%)$$

where $O_2\%$ and $N_2\%$ are described in items 14 and 15 below.

13. Dissolved oxygen (O_2% (% saturation)).

14. Dissolved nitrogen (N_2% (% saturation)). This measurement may also include other gases, notably argon.

Compilation of the data was complicated by incorrectly reported data in two papers. In the first paper by Rucker (1975b)(author code 15), time to 50% mortality is reported as time to 30% mortality in Table 1 (p. 917); examination of Figures 2 and 3 (p. 917) suggests that time to 50% mortality (but not 30%) is correct. In the second paper, a review by Weitkamp and Katz (1980), numerous errors were found; these are summarized in Table 4.

Of the 621 individual records compiled in the original data file (Table 2), a reduced number contained sufficient information to be considered further in the response models to be examined. Two such subsets of data were compiled. The first, data subset 1 (Table 5), contains 171 records whereby ET50 is reported for juveniles (species code 2) exposed to TGP% and ancillary variables including water depth, water temperature, fish length, and BP. A further reduction to 81 records occurs in data subset 2 (Table 6); this subset comprises those records from subset 1 for which information also is available

on dissolved oxygen and nitrogen levels (also shown as dissolved oxygen/nitrogen ratios). Of course if two of the components of TGP%, O_2%, and N_2% are known, the third may be computed from the original records.

A large portion of the records in subset 1 was obtained from a paper by Nebeker et al. (1979a). One problem with this published information was that only a range of fish sizes was reported. Happily, A. Nebeker (pers. comm.) was able to provide the mean fish sizes for the various tests reported. Hence, these data are tabulated rather than using values averaged from the size ranges reported. In addition, mean BP values for each test also were provided, allowing more accurate corrections when recalculating TGP% values with the addition of VP to the numerator as mentioned above. Finally, an error in the 1979 paper was pointed out by A. Nebeker, where the average length and weight of steelhead reported (15 cm and 32 gm, respectively) was for the mixed gas tests, not the temperature tests. This latter change also is included in the tabulated records herein.

Data subsets 1 and 2 are used by Schnute, Jensen, and Alderdice (MS) to model the relation involving ET50 exposure times among juvenile salmonids exposed to excess TGP%, and to estimate TGP thresholds in the family of relations generated under the influence of the combinations of levels of the ancillary variables indicated. These data files are reproduced here for those interested in the problem of biological effects of gas supersaturation in fishes. A computer tape of the full data file can be made available to others to facilitate data transfer for further analysis.

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Table 1. Authors and corresponding numerical codes used to identify the source of information in the data records.

#	Author	#	Author
1	Rucker (1975a)	13	Dawley and Ebel (1975)
2	Nebeker et al. (1978)	14	Nebeker et al. (1979a)
3	Jensen (1980)	15	Rucker (1975b)
4	Ebel (1971)	16	Blahm et al. (1975)
5	Ebel (1969)	17	Knittel et al. (1980)
6	Rucker and Kangas (1974)	18	Stroud and Nebeker (1976)
7	Ebel et al. (1971)	19	Nebeker et al. (1976a)
8	Dawley et al. (1976)	20	Coutant and Genoway (1968)
9	Weitkamp (1976)	21	Nebeker et al. (1976b)
10	Wyatt and Beiningen (1969)	22	Nebeker and Brett (1976)
11	Blahm et al. (1973)	23	Nebeker et al. (1979b)
12	Meekin and Turner (1974)		

Table 2. Complete data records from the 23 publications listed, with author codes (see Table 1), species code (1 = chinook, 2 = coho, 3 = sockeye, 4 = steelhead), life stage code (1 = larval 'eggs and alevins', 2 = juvenile 'fry and smolts', 3 = adult), * = values derived from figures or were calculated, ** = TGP % recalculated with VP (vapour pressure, water) included, # = N_2 % calculated using TGP % and O_2 %.

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
1	1.001	1	1	---	----	7.2	*758.0	-----	11.0	1032.0	* 99.0	95.0	100.0
2	1.001	1	1	---	----	7.2	*758.0	-----	19.0	1560.0	* 99.0	95.0	100.0
3	1.002	1	1	---	----	7.7	*758.0	-----	1.4	1560.0	*109.7	98.0	113.0
4	1.002	1	1	---	----	7.7	*758.0	-----	1.8	1032.0	*109.7	98.0	113.0
5	1.003	1	1	---	----	7.7	*758.0	-----	0.6	1032.0	*118.6	103.0	123.0
6	1.003	1	1	---	----	7.7	*758.0	-----	0.4	1032.0	*118.6	103.0	123.0
7	1.003	1	1	---	----	7.7	*758.0	-----	0.1	1560.0	*118.6	103.0	123.0
8	1.003	1	1	---	----	7.7	*758.0	-----	0.1	1560.0	*118.6	103.0	123.0
9	2.001	4	1	---	----	10.0	*754.0	0.080	*18.0	480.0	126.2	---	---
10	2.001	4	1	---	----	10.0	*754.0	0.080	*60.0	500.0	126.2	---	---
11	2.001	4	1	---	----	10.0	*754.0	0.080	*78.0	720.0	126.2	---	---
12	2.001	4	1	---	----	10.0	*754.0	0.080	*84.0	840.0	126.2	---	---
13	2.001	4	1	---	----	10.0	*754.0	0.080	*88.0	960.0	126.2	---	---
14	2.001	4	1	---	----	10.0	*754.0	0.080	*90.0	1080.0	126.2	---	---
15	2.001	4	1	---	----	10.0	*754.0	0.080	*93.0	1200.0	126.2	---	---
16	2.002	4	1	---	----	10.0	*754.0	0.080	*10.0	480.0	122.9	---	---
17	2.002	4	1	---	----	10.0	*754.0	0.080	*38.0	500.0	122.9	---	---
18	2.002	4	1	---	----	10.0	*754.0	0.080	*55.0	720.0	122.9	---	---
19	2.002	4	1	---	----	10.0	*754.0	0.080	*68.0	840.0	122.9	---	---
20	2.002	4	1	---	----	10.0	*754.0	0.080	*68.0	960.0	122.9	---	---
21	2.002	4	1	---	----	10.0	*754.0	0.080	*71.0	1080.0	122.9	---	---
22	2.002	4	1	---	----	10.0	*754.0	0.080	*74.0	1200.0	122.9	---	---
23	2.003	4	1	---	----	10.0	*754.0	0.080	* 2.0	480.0	118.4	---	---
24	2.003	4	1	---	----	10.0	*754.0	0.080	* 7.5	500.0	118.4	---	---
25	2.003	4	1	---	----	10.0	*754.0	0.080	*20.0	720.0	118.4	---	---
26	2.003	4	1	---	----	10.0	*754.0	0.080	*30.0	840.0	118.4	---	---
27	2.003	4	1	---	----	10.0	*754.0	0.080	*38.0	960.0	118.4	---	---
28	2.003	4	1	---	----	10.0	*754.0	0.080	*58.0	1080.0	118.4	---	---
29	2.003	4	1	---	----	10.0	*754.0	0.080	*63.0	1200.0	118.4	---	---
30	2.004	4	1	---	----	10.0	*754.0	0.080	* 2.0	500.0	115.4	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
31	2.005	4	2	33.0	0.31	10.0	*754.0	0.080	76.0	2160.0	122.0	---	---
32	2.006	4	1	---	----	10.0	*754.0	0.080	*50.0	960.0	117.0	---	---
33	2.007	4	2	34.0	0.35	10.0	*754.0	0.080	1.0	2160.0	100.2	---	---
34	2.008	4	2	36.3	0.40	10.0	*754.0	0.080	90.0	2160.0	125.7	---	---
35	2.009	4	2	40.0	0.60	10.0	*754.0	0.080	---	2160.0	100.2	---	---
36	2.010	4	2	27.8	0.17	10.0	*754.0	0.080	76.0	2160.0	123.8	---	---
37	2.011	4	2	34.3	0.35	10.0	*754.0	0.080	32.0	2160.0	115.5	---	---
38	2.012	4	2	35.4	0.39	10.0	*754.0	0.080	65.0	2160.0	118.3	---	---
39	2.013	4	2	36.4	0.46	10.0	*754.0	0.080	67.0	2160.0	118.4	---	---
40	2.014	4	1	---	----	10.0	*754.0	0.080	*10.0	960.0	111.5	---	---
41	2.015	4	2	35.5	0.35	10.0	*754.0	0.080	45.0	2160.0	115.3	---	---
42	3.001	4	1	29.7	0.20	12.0	766.0	0.025	11.8	909.6	110.0	110.1	110.5
43	4.001	1	2	---	----	12.2	*749.0	0.750	60.0	24.0	---	---	127.0
44	4.001	1	2	---	----	12.2	*749.0	0.750	100.0	168.0	---	---	127.0
45	4.001	1	2	---	----	12.2	*749.0	0.750	92.0	48.0	---	---	127.0
46	4.002	1	2	---	----	13.1	*749.0	4.000	2.0	168.0	---	---	129.5
47	4.003	1	2	---	----	13.1	*749.0	4.500	68.0	168.0	---	---	129.5
48	4.004	1	2	---	----	14.8	*749.0	0.750	100.0	168.0	---	---	129.5
49	4.004	1	2	---	----	14.8	*749.0	0.750	74.0	24.0	---	---	129.5
50	4.004	1	2	---	----	14.8	*749.0	0.750	86.0	48.0	---	---	129.5
51	4.004	1	2	---	----	14.8	*749.0	0.750	100.0	168.0	---	---	129.5
52	4.004	1	2	---	----	14.8	*749.0	0.750	82.0	48.0	---	---	129.5
53	4.004	1	2	---	----	14.8	*749.0	0.750	58.0	24.0	---	---	129.5
54	4.005	1	2	---	----	14.8	*749.0	1.750	86.0	168.0	---	---	129.5
55	4.006	1	2	---	----	14.8	*749.0	4.000	2.0	168.0	---	---	129.5
56	4.007	1	2	---	----	14.8	*749.0	4.500	50.0	168.0	---	---	129.5
57	4.008	1	2	---	----	18.3	*749.0	0.750	100.0	24.0	---	---	130.5
58	4.009	1	2	---	----	18.3	*749.0	1.000	100.0	24.0	---	---	130.5
59	4.009	1	2	---	----	18.3	*749.0	1.000	56.0	168.0	---	---	130.5
60	4.010	1	2	---	----	18.3	*749.0	4.000	34.0	24.0	---	---	130.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
61	4.011	1	2	---	----	18.3	*749.0	4.500	38.0	168.0	---	---	130.5
62	4.012	1	2	---	----	12.2	*749.0	4.000	6.0	168.0	---	---	127.0
63	4.013	1	2	---	----	12.2	*749.0	4.500	45.0	168.0	---	---	127.0
64	4.014	1	2	---	----	13.1	*749.0	0.750	98.0	24.0	---	---	129.5
65	4.014	1	2	---	----	13.1	*749.0	0.750	98.0	48.0	---	---	129.5
66	4.014	1	2	---	----	13.1	*749.0	0.750	100.0	168.0	---	---	129.5
67	4.015	1	2	---	----	13.1	*749.0	1.000	64.0	24.0	---	---	129.5
68	4.015	1	2	---	----	13.1	*749.0	1.000	98.0	48.0	---	---	129.5
69	4.015	1	2	---	----	13.1	*749.0	1.000	100.0	168.0	---	---	129.5
70	4.016	1	2	---	----	13.1	*749.0	2.000	40.0	168.0	---	---	129.5
71	4.017	1	2	---	----	16.3	*749.0	0.750	50.0	19.7	*128.9	---	---
72	5.001	1	2	---	----	15.9	*749.0	1.500	8.0	2280.0	---	---	118.0
73	5.002	1	2	---	----	15.9	*749.0	6.000	11.0	2280.0	---	---	118.0
74	5.003	1	2	---	----	15.9	*749.0	3.000	2.0	2280.0	---	---	118.0
75	5.004	2	2	---	----	---	*749.0	1.500	10.0	240.0	---	---	120.0
76	5.005	2	2	---	----	---	*749.0	3.000	3.0	240.0	---	---	120.0
77	5.006	2	2	---	----	---	*749.0	3.500	0.0	240.0	---	---	120.0
78	5.007	2	2	---	----	---	*749.0	6.000	11.0	240.0	---	---	120.0
79	5.008	2	2	---	----	---	*749.0	3.000	70.0	240.0	---	---	140.0
80	5.009	2	2	---	----	---	*749.0	1.500	100.0	240.0	---	---	140.0
81	5.010	2	2	---	----	---	*749.0	3.500	3.0	240.0	---	---	140.0
82	5.011	2	2	---	----	---	*749.0	6.000	18.0	240.0	---	---	140.0
83	6.001	2	2	---	----	8.0	*760.0	-----	*50.0	1248.0	*116.0	102.0	120.0
84	6.002	1	2	---	----	10.0	*760.0	-----	*50.0	1056.0	---	120.0	120.0
85	6.003	2	2	---	----	8.0	*760.0	-----	*50.0	1080.0	*117.8	103.0	122.0
86	6.004	1	2	---	----	10.0	*760.0	-----	*50.0	936.0	---	124.0	124.0
87	6.005	2	2	---	----	8.0	*760.0	-----	*50.0	456.0	*120.9	103.0	126.0
88	6.006	1	2	---	----	8.0	*760.0	-----	*50.0	2040.0	---	102.0	120.0
89	6.007	1	2	---	----	8.0	*760.0	-----	*50.0	1008.0	---	103.0	122.0
90	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	15.0	1.4	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
91	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	100.0	2.2	---	---	127.5
92	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	50.0	1.6	---	---	127.5
93	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	50.0	0.9	---	---	127.5
94	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	100.0	1.6	---	---	127.5
95	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	5.0	0.3	---	---	127.5
96	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	15.0	0.8	---	---	127.5
97	7.001	1	2	134.0	23.00	27.0	*760.0	0.200	5.0	1.2	---	---	127.5
98	7.002	1	2	129.0	19.00	20.0	*760.0	0.200	50.0	13.0	---	---	127.5
99	7.002	1	2	129.0	19.00	20.0	*760.0	0.200	5.0	7.7	---	---	127.5
100	7.003	1	2	129.0	19.00	23.0	*760.0	0.200	5.0	2.7	---	---	127.5
101	7.003	1	2	129.0	19.00	23.0	*760.0	0.200	15.0	12.0	---	---	127.5
102	7.003	1	2	129.0	19.00	23.0	*760.0	0.200	100.0	15.0	---	---	127.5
103	7.003	1	2	129.0	19.00	23.0	*760.0	0.200	50.0	6.8	---	---	127.5
104	7.004	1	2	129.0	19.00	25.0	*760.0	0.200	100.0	2.8	---	---	127.5
105	7.004	1	2	129.0	19.00	25.0	*760.0	0.200	50.0	3.3	---	---	127.5
106	7.004	1	2	129.0	19.00	25.0	*760.0	0.200	15.0	7.8	---	---	127.5
107	7.004	1	2	129.0	19.00	25.0	*760.0	0.200	5.0	0.3	---	---	127.5
108	7.005	1	2	129.0	19.00	27.0	*760.0	0.200	5.0	0.1	---	---	127.5
109	7.005	1	2	129.0	19.00	27.0	*760.0	0.200	100.0	0.7	---	---	127.5
110	7.005	1	2	129.0	19.00	27.0	*760.0	0.200	50.0	0.1	---	---	127.5
111	7.005	1	2	129.0	19.00	27.0	*760.0	0.200	15.0	0.7	---	---	127.5
112	7.006	1	2	134.0	23.00	15.0	*760.0	0.200	50.0	11.3	---	---	127.5
113	7.006	1	2	134.0	23.00	15.0	*760.0	0.200	100.0	15.0	---	---	127.5
114	7.006	1	2	134.0	23.00	15.0	*760.0	0.200	5.0	8.5	---	---	127.5
115	7.006	1	2	134.0	23.00	15.0	*760.0	0.200	15.0	8.5	---	---	127.5
116	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	100.0	13.0	---	---	127.5
117	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	15.0	12.3	---	---	127.5
118	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	50.0	13.7	---	---	127.5
119	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	5.0	4.3	---	---	127.5
120	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	15.0	6.0	---	---	127.5
121	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	50.0	7.5	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
122	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	5.0	9.8	---	---	127.5
123	7.007	1	2	134.0	23.00	20.0	*760.0	0.200	100.0	18.0	---	---	127.5
124	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	15.0	5.8	---	---	127.5
125	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	100.0	12.6	---	---	127.5
126	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	5.0	6.3	---	---	127.5
127	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	50.0	7.3	---	---	127.5
128	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	50.0	9.0	---	---	127.5
129	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	15.0	8.5	---	---	127.5
130	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	5.0	2.5	---	---	127.5
131	7.008	1	2	134.0	23.00	23.0	*760.0	0.200	100.0	11.5	---	---	127.5
132	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	5.0	3.5	---	---	127.5
133	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	100.0	4.6	---	---	127.5
134	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	15.0	3.3	---	---	127.5
135	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	100.0	12.5	---	---	127.5
136	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	15.0	6.2	---	---	127.5
137	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	50.0	4.3	---	---	127.5
138	7.009	1	2	134.0	23.00	25.0	*760.0	0.200	50.0	9.5	---	---	127.5
139	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	100.0	0.4	---	---	127.5
140	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	15.0	0.1	---	---	127.5
141	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	50.0	0.2	---	---	127.5
142	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	5.0	0.6	---	---	127.5
143	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	50.0	0.8	---	---	127.5
144	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	5.0	0.1	---	---	127.5
145	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	100.0	1.1	---	---	127.5
146	7.010	1	2	134.0	23.00	28.0	*760.0	0.200	15.0	0.8	---	---	127.5
147	7.011	1	2	134.0	23.00	29.0	*760.0	0.200	50.0	0.3	---	---	127.5
148	7.011	1	2	134.0	23.00	29.0	*760.0	0.200	5.0	0.2	---	---	127.5
149	7.011	1	2	134.0	23.00	29.0	*760.0	0.200	15.0	0.2	---	---	127.5
150	7.011	1	2	134.0	23.00	29.0	*760.0	0.200	100.0	0.5	---	---	127.5
151	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	50.0	3.3	---	---	127.5
152	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	15.0	0.3	---	---	127.5
153	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	15.0	0.9	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
154	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	100.0	1.2	---	---	127.5
155	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	5.0	0.6	---	---	127.5
156	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	50.0	0.4	---	---	127.5
157	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	100.0	15.2	---	---	127.5
158	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	5.0	0.1	---	---	127.5
159	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	15.0	2.5	---	---	127.5
160	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	50.0	1.3	---	---	127.5
161	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	100.0	1.9	---	---	127.5
162	7.012	2	2	122.7	19.10	27.0	*760.0	0.200	5.0	2.2	---	---	127.5
163	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	5.0	6.7	---	---	127.5
164	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	15.0	0.3	---	---	127.5
165	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	5.0	2.2	---	---	127.5
166	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	100.0	4.3	---	---	127.5
167	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	100.0	1.0	---	---	127.5
168	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	100.0	15.5	---	---	127.5
169	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	15.0	8.5	---	---	127.5
170	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	50.0	0.4	---	---	127.5
171	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	50.0	3.2	---	---	127.5
172	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	15.0	2.5	---	---	127.5
173	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	50.0	14.0	---	---	127.5
174	7.013	2	2	122.7	19.10	25.0	*760.0	0.200	5.0	0.2	---	---	127.5
175	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	15.0	5.0	---	---	127.5
176	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	50.0	8.6	---	---	127.5
177	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	50.0	4.4	---	---	127.5
178	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	5.0	38.8	---	---	127.5
179	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	50.0	13.0	---	---	127.5
180	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	5.0	1.4	---	---	127.5
181	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	5.0	3.6	---	---	127.5
182	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	5.0	9.3	---	---	127.5
183	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	15.0	8.5	---	---	127.5
184	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	15.0	5.0	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
185	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	15.0	1.8	---	---	127.5
186	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	100.0	7.0	---	---	127.5
187	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	100.0	17.3	---	---	127.5
188	7.014	2	2	122.7	19.10	23.0	*760.0	0.200	50.0	9.2	---	---	127.5
189	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	100.0	15.3	---	---	127.5
190	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	5.0	4.4	---	---	127.5
191	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	50.0	8.4	---	---	127.5
192	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	15.0	4.9	---	---	127.5
193	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	50.0	13.5	---	---	127.5
194	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	5.0	6.3	---	---	127.5
195	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	50.0	9.0	---	---	127.5
196	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	15.0	4.5	---	---	127.5
197	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	15.0	8.3	---	---	127.5
198	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	50.0	6.5	---	---	127.5
199	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	5.0	6.0	---	---	127.5
200	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	100.0	18.0	---	---	127.5
201	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	5.0	3.8	---	---	127.5
202	7.015	2	2	122.7	19.10	20.0	*760.0	0.200	15.0	8.6	---	---	127.5
203	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	50.0	9.6	---	---	127.5
204	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	5.0	7.0	---	---	127.5
205	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	50.0	9.3	---	---	127.5
206	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	15.0	7.2	---	---	127.5
207	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	5.0	6.3	---	---	127.5
208	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	15.0	7.9	---	---	127.5
209	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	5.0	6.9	---	---	127.5
210	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	15.0	6.8	---	---	127.5
211	7.016	2	2	122.7	19.10	15.0	*760.0	0.200	50.0	18.1	---	---	127.5
212	7.017	2	2	122.7	19.10	10.0	*760.0	0.200	5.0	12.9	---	---	127.5
213	7.017	2	2	122.7	19.10	10.0	*760.0	0.200	15.0	7.6	---	---	127.5
214	7.017	2	2	122.7	19.10	10.0	*760.0	0.200	100.0	16.5	---	---	127.5
215	7.017	2	2	122.7	19.10	10.0	*760.0	0.200	15.0	14.6	---	---	127.5
216	7.017	2	2	122.7	19.10	10.0	*760.0	0.200	50.0	10.0	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
217	7.017	2	2	122.7	19.10	10.0	*760.0	0.200	5.0	6.9	---	---	127.5
218	7.018	2	2	122.7	19.10	5.0	*760.0	0.200	5.0	8.8	---	---	127.5
219	7.018	2	2	122.7	19.10	5.0	*760.0	0.200	50.0	13.5	---	---	127.5
220	7.018	2	2	122.7	19.10	5.0	*760.0	0.200	15.0	10.3	---	---	127.5
221	7.019	1	2	129.0	19.00	15.0	*760.0	0.200	5.0	10.8	---	---	127.5
222	7.020	1	2	129.0	19.00	10.0	*760.0	0.200	5.0	10.0	---	---	127.5
223	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	100.0	0.8	---	---	127.5
224	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	100.0	1.9	---	---	127.5
225	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	50.0	0.3	---	---	127.5
226	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	15.0	0.6	---	---	127.5
227	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	5.0	0.5	---	---	127.5
228	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	15.0	0.2	---	---	127.5
229	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	5.0	0.1	---	---	127.5
230	7.021	2	2	122.7	19.10	28.0	*760.0	0.200	50.0	0.7	---	---	127.5
231	7.022	2	2	122.7	19.10	29.0	*760.0	0.200	15.0	0.2	---	---	127.5
232	7.022	2	2	122.7	19.10	29.0	*760.0	0.200	100.0	0.8	---	---	127.5
233	7.022	2	2	122.7	19.10	29.0	*760.0	0.200	5.0	0.2	---	---	127.5
234	7.022	2	2	122.7	19.10	29.0	*760.0	0.200	50.0	0.3	---	---	127.5
235	7.023	4	2	179.0	54.00	28.0	*760.0	0.200	50.0	0.4	---	---	127.5
236	7.023	4	2	179.0	54.00	28.0	*760.0	0.200	5.0	0.3	---	---	127.5
237	7.023	4	2	179.0	54.00	28.0	*760.0	0.200	100.0	0.6	---	---	127.5
238	7.023	4	2	179.0	54.00	28.0	*760.0	0.200	15.0	0.3	---	---	127.5
239	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	50.0	0.3	---	---	127.5
240	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	15.0	0.3	---	---	127.5
241	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	15.0	0.9	---	---	127.5
242	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	5.0	0.6	---	---	127.5
243	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	5.0	1.0	---	---	127.5
244	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	100.0	1.4	---	---	127.5
245	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	50.0	1.0	---	---	127.5
246	7.024	4	2	179.0	54.00	27.0	*760.0	0.200	100.0	1.3	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
247	7.025	4	2	179.0	54.00	26.0	*760.0	0.200	100.0	12.0	---	---	127.5
248	7.025	4	2	179.0	54.00	26.0	*760.0	0.200	5.0	3.5	---	---	127.5
249	7.025	4	2	179.0	54.00	26.0	*760.0	0.200	50.0	8.9	---	---	127.5
250	7.025	4	2	179.0	54.00	26.0	*760.0	0.200	15.0	6.5	---	---	127.5
251	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	50.0	10.8	---	---	127.5
252	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	15.0	5.3	---	---	127.5
253	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	15.0	10.0	---	---	127.5
254	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	100.0	11.5	---	---	127.5
255	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	100.0	15.0	---	---	127.5
256	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	5.0	8.0	---	---	127.5
257	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	50.0	7.5	---	---	127.5
258	7.026	4	2	179.0	54.00	23.0	*760.0	0.200	5.0	3.8	---	---	127.5
259	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	5.0	8.0	---	---	127.5
260	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	100.0	14.5	---	---	127.5
261	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	50.0	8.2	---	---	127.5
262	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	5.0	3.8	---	---	127.5
263	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	50.0	10.5	---	---	127.5
264	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	100.0	13.0	---	---	127.5
265	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	15.0	6.1	---	---	127.5
266	7.027	4	2	179.0	54.00	20.0	*760.0	0.200	15.0	9.5	---	---	127.5
267	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	100.0	22.0	---	---	127.5
268	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	50.0	14.0	---	---	127.5
269	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	5.0	2.9	---	---	127.5
270	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	15.0	10.8	---	---	127.5
271	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	5.0	9.5	---	---	127.5
272	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	15.0	3.6	---	---	127.5
273	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	100.0	11.0	---	---	127.5
274	7.028	4	2	179.0	54.00	15.0	*760.0	0.200	50.0	5.7	---	---	127.5
275	7.029	4	2	179.0	54.00	25.0	*760.0	0.200	100.0	7.8	---	---	127.5
276	7.029	4	2	179.0	54.00	25.0	*760.0	0.200	15.0	1.9	---	---	127.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
277	7.029	4	2	179.0	54.00	25.0	*760.0	0.200	5.0	1.0	---	---	127.5
278	7.029	4	2	179.0	54.00	25.0	*760.0	0.200	50.0	2.8	---	---	127.5
279	7.030	4	2	179.0	54.00	10.0	*760.0	0.200	15.0	4.7	---	---	127.5
280	7.030	4	2	179.0	54.00	10.0	*760.0	0.200	100.0	11.0	---	---	127.5
281	7.030	4	2	179.0	54.00	10.0	*760.0	0.200	50.0	5.1	---	---	127.5
282	7.030	4	2	179.0	54.00	10.0	*760.0	0.200	5.0	3.3	---	---	127.5
283	7.031	2	2	122.7	19.10	26.0	*760.0	0.200	15.0	4.1	---	---	127.5
284	7.031	2	2	122.7	19.10	26.0	*760.0	0.200	5.0	3.7	---	---	127.5
285	7.031	2	2	122.7	19.10	26.0	*760.0	0.200	50.0	10.8	---	---	127.5
286	8.001	4	2	180.0	54.80	10.0	*760.0	0.250	57.0	168.0	115.0	---	---
287	8.002	4	2	180.0	54.80	10.0	*760.0	0.250	5.0	168.0	110.0	---	---
288	8.003	1	2	40.0	0.43	10.0	*760.0	0.250	80.0	1440.0	115.0	---	---
289	8.004	1	2	40.0	0.43	10.0	*760.0	0.250	97.0	1440.0	120.0	---	---
290	8.005	1	2	40.0	0.43	10.0	*760.0	0.250	18.0	1440.0	110.0	---	---
291	8.006	1	2	40.0	0.43	10.0	*760.0	0.250	5.0	1440.0	105.0	---	---
292	8.007	4	2	180.0	54.80	10.0	*760.0	0.250	100.0	48.0	120.0	---	---
293	8.008	1	2	40.0	0.43	10.0	*760.0	2.500	5.0	1440.0	120.0	---	---
294	8.009	1	2	40.0	0.43	10.0	*760.0	2.500	68.0	1440.0	124.0	---	---
295	8.010	1	2	40.0	0.43	10.0	*760.0	2.500	90.0	1440.0	127.0	---	---
296	8.011	1	2	40.0	0.43	10.0	*760.0	2.500	2.0	1440.0	110.0	---	---
297	8.012	1	2	40.0	0.43	10.0	*760.0	2.500	2.0	1440.0	115.0	---	---
298	9.001	1	2	---	----	---	*743.0	4.000	---	240.0	*121.0	---	---
299	9.002	1	2	---	----	---	*743.0	3.000	---	240.0	*121.0	---	---
300	9.003	1	2	---	----	---	*743.0	4.000	---	480.0	*124.0	---	---
301	9.004	1	2	---	----	---	*743.0	3.000	1.0	480.0	*124.0	---	---
302	9.005	1	2	---	----	---	*743.0	0.100	53.0	240.0	*121.0	---	---
303	9.006	1	2	---	----	---	*743.0	0.250	50.0	48.0	125.0	---	---
304	9.007	1	2	---	----	---	*743.0	0.250	50.0	240.0	*120.5	---	---
305	10.001	1	2	---	----	---	---	0.600	100.0	5.0	---	---	152.0
306	11.001	1	2	---	----	---	*759.0	2.500	11.0	1320.0	---	---	120.5
307	11.002	1	2	---	----	---	*759.0	1.000	80.0	1320.0	---	---	120.5

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
308	11.003	4	2	---	----	---	*759.0	2.500	6.0	1320.0	*119.3	---	120.5
309	11.004	4	2	---	----	---	*759.0	1.000	80.0	1320.0	*119.3	---	120.5
310	12.001	4	1	---	----	11.1	*736.0	0.170	77.3	648.0	*111.9	74.0	122.0
311	12.001	4	1	---	----	11.1	*736.0	0.170	54.0	792.0	*111.9	74.0	122.0
312	12.001	4	1	---	----	11.1	*736.0	0.170	68.0	744.0	*111.9	74.0	122.0
313	12.002	4	2	64.0	----	11.1	*736.0	0.170	20.0	264.0	*111.0	77.0	120.0
314	12.003	1	2	49.5	----	11.1	*736.0	0.170	75.9	2064.0	*111.9	74.0	122.0
315	12.004	1	2	101.0	----	11.1	*736.0	0.170	*50.0	144.0	*111.0	77.0	120.0
316	12.005	1	2	80.0	----	11.1	*736.0	0.170	*50.0	360.0	*111.0	77.0	120.0
317	12.006	1	2	67.0	----	11.1	*736.0	0.170	*50.0	300.0	*111.9	74.0	122.0
318	12.007	1	2	53.0	----	11.1	*736.0	0.170	*50.0	372.0	*111.9	74.0	122.0
319	12.008	1	2	101.0	----	11.1	*736.0	0.170	*50.0	45.6	*114.1	73.0	125.0
320	12.009	1	2	82.0	----	11.1	*736.0	0.170	*50.0	103.2	*114.1	73.0	125.0
321	12.010	1	2	97.0	----	11.1	*736.0	0.170	*50.0	31.2	*122.2	74.0	135.0
322	12.011	1	2	96.0	----	11.1	*736.0	0.170	*50.0	38.4	*122.2	74.0	135.0
323	12.012	1	2	95.0	----	11.1	*736.0	0.170	*50.0	50.4	*122.2	74.0	135.0
324	12.013	1	2	45.0	----	11.1	*736.0	0.170	*50.0	160.8	*122.2	74.0	135.0
325	12.014	2	2	77.0	----	11.1	*736.0	0.610	*50.0	43.2	*122.0	126.0	121.0
326	12.015	4	2	69.0	----	11.1	*736.0	0.610	*50.0	50.4	*122.5	117.0	124.0
327	12.016	1	2	99.0	----	11.1	*736.0	0.610	*50.0	62.4	*122.5	117.0	124.0
328	12.017	1	2	82.0	----	11.1	*736.0	0.610	*50.0	67.2	*122.5	117.0	124.0
329	12.018	1	2	54.0	----	11.1	*736.0	0.610	*50.0	93.6	*122.5	117.0	124.0
330	13.001	1	2	120.0	16.20	15.0	*760.0	0.250	100.0	55.0	*117.2	106.5	120.0
331	13.001	1	2	120.0	16.20	15.0	*760.0	0.250	50.0	26.9	*117.2	106.5	120.0
332	13.001	1	2	120.0	16.20	15.0	*760.0	0.250	10.0	19.3	*117.2	106.5	120.0
333	13.002	4	2	124.0	20.60	15.0	*760.0	0.250	50.0	33.3	*117.2	106.5	120.0
334	13.003	4	2	130.0	19.80	15.0	*760.0	0.250	50.0	486.0	*111.4	98.0	115.0
335	13.004	1	2	120.0	13.60	15.0	*760.0	0.250	7.0	792.0	*111.4	98.0	115.0
336	13.005	1	2	117.0	16.80	15.0	*760.0	0.250	10.0	10.6	*122.9	115.0	125.0
337	13.005	1	2	117.0	16.80	15.0	*760.0	0.250	50.0	13.6	*122.9	115.0	125.0
338	13.005	1	2	117.0	16.80	15.0	*760.0	0.250	100.0	32.1	*122.9	115.0	125.0
339	13.006	4	2	---	----	15.0	*760.0	0.250	50.0	114.0	*122.9	115.0	125.0

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
340	14.001	4	2	79.0	5.80	10.0	756.5	0.600	20.0	320.0	**115.5	---	---
341	14.001	4	2	79.0	5.80	10.0	756.5	0.600	50.0	510.0	**115.5	---	---
342	14.002	4	2	79.0	5.80	12.0	756.5	0.600	50.0	505.0	**115.9	---	---
343	14.002	4	2	79.0	5.80	12.0	756.5	0.600	50.0	408.0	**115.9	---	---
344	14.002	4	2	79.0	5.80	12.0	756.5	0.600	20.0	285.0	**115.9	---	---
345	14.002	4	2	79.0	5.80	12.0	756.5	0.600	20.0	215.0	**115.9	---	---
346	14.003	4	2	79.0	5.80	15.0	756.5	0.600	20.0	150.0	**116.5	---	---
347	14.003	4	2	79.0	5.80	15.0	756.5	0.600	20.0	156.0	**116.5	---	---
348	14.003	4	2	79.0	5.80	15.0	756.5	0.600	50.0	305.0	**116.5	---	---
349	14.003	4	2	79.0	5.80	15.0	756.5	0.600	50.0	268.0	**116.5	---	---
350	14.004	4	2	79.0	5.80	18.0	756.5	0.600	50.0	202.0	**116.7	---	---
351	14.004	4	2	79.0	5.80	18.0	756.5	0.600	20.0	135.0	**116.7	---	---
352	14.004	4	2	79.0	5.80	18.0	756.5	0.600	20.0	107.0	**116.7	---	---
353	14.004	4	2	79.0	5.80	18.0	756.5	0.600	50.0	285.0	**116.7	---	---
354	14.005	4	2	102.0	11.70	9.0	756.2	0.600	50.0	223.0	**117.2	---	---
355	14.005	4	2	102.0	11.70	9.0	756.2	0.600	20.0	175.0	**117.2	---	---
356	14.005	4	2	102.0	11.70	9.0	756.2	0.600	20.0	108.0	**117.2	---	---
357	14.005	4	2	102.0	11.70	9.0	756.2	0.600	50.0	462.0	**117.2	---	---
358	14.006	3	2	105.0	13.90	9.0	756.2	0.600	50.0	418.0	**117.2	---	---
359	14.006	3	2	105.0	13.90	9.0	756.2	0.600	20.0	177.0	**117.2	---	---
360	14.006	3	2	105.0	13.90	9.0	756.2	0.600	20.0	165.0	**117.2	---	---
361	14.006	3	2	105.0	13.90	9.0	756.2	0.600	50.0	515.0	**117.2	---	---
362	14.007	4	2	102.0	11.70	12.0	756.2	0.600	20.0	141.0	**117.6	---	---
363	14.007	4	2	102.0	11.70	12.0	756.2	0.600	20.0	158.0	**117.6	---	---
364	14.007	4	2	102.0	11.70	12.0	756.2	0.600	50.0	252.0	**117.6	---	---
365	14.007	4	2	102.0	11.70	12.0	756.2	0.600	50.0	242.0	**117.6	---	---
366	14.008	3	2	105.0	13.90	12.0	756.2	0.600	50.0	525.0	**117.6	---	---
367	14.008	3	2	105.0	13.90	12.0	756.2	0.600	20.0	205.0	**117.6	---	---
368	14.008	3	2	105.0	13.90	12.0	756.2	0.600	20.0	214.0	**117.6	---	---
369	14.008	3	2	105.0	13.90	12.0	756.2	0.600	50.0	395.0	**117.6	---	---
370	14.009	4	2	102.0	11.70	15.0	756.2	0.600	20.0	57.0	**117.9	---	---
371	14.009	4	2	102.0	11.70	15.0	756.2	0.600	50.0	193.0	**117.9	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
372	14.009	4	2	102.0	11.70	15.0	756.2	0.600	20.0	92.0	**117.9	---	---
373	14.009	4	2	102.0	11.70	15.0	756.2	0.600	50.0	118.0	**117.9	---	---
374	14.010	3	2	105.0	13.90	15.0	756.2	0.600	20.0	173.0	**117.9	---	---
375	14.010	3	2	105.0	13.90	15.0	756.2	0.600	20.0	154.0	**117.9	---	---
376	14.010	3	2	105.0	13.90	15.0	756.2	0.600	50.0	490.0	**117.9	---	---
377	14.010	3	2	105.0	13.90	15.0	756.2	0.600	50.0	470.0	**117.9	---	---
378	14.011	4	2	102.0	11.70	18.0	756.2	0.600	20.0	37.0	**118.4	---	---
379	14.011	4	2	102.0	11.70	18.0	756.2	0.600	20.0	39.0	**118.4	---	---
380	14.011	4	2	102.0	11.70	18.0	756.2	0.600	50.0	72.0	**118.4	---	---
381	14.011	4	2	102.0	11.70	18.0	756.2	0.600	50.0	52.0	**118.4	---	---
382	14.012	3	2	105.0	13.90	18.0	756.2	0.600	20.0	162.0	**118.4	---	---
383	14.012	3	2	105.0	13.90	18.0	756.2	0.600	50.0	313.0	**118.4	---	---
384	14.012	3	2	105.0	13.90	18.0	756.2	0.600	50.0	453.0	**118.4	---	---
385	14.012	3	2	105.0	13.90	18.0	756.2	0.600	20.0	212.0	**118.4	---	---
386	14.013	4	2	95.0	10.40	9.0	760.2	0.600	20.0	101.0	116.5	---	---
387	14.013	4	2	95.0	10.40	9.0	760.2	0.600	20.0	127.0	116.5	---	---
388	14.013	4	2	95.0	10.40	9.0	760.2	0.600	50.0	193.0	116.5	---	---
389	14.013	4	2	95.0	10.40	9.0	760.2	0.600	50.0	160.0	116.5	---	---
390	14.014	3	2	110.0	18.00	9.0	760.2	0.600	20.0	158.0	116.5	---	---
391	14.014	3	2	110.0	18.00	9.0	760.2	0.600	20.0	116.0	116.5	---	---
392	14.014	3	2	110.0	18.00	9.0	760.2	0.600	50.0	456.0	116.5	---	---
393	14.014	3	2	110.0	18.00	9.0	760.2	0.600	50.0	287.0	116.5	---	---
394	14.015	4	2	95.0	10.40	12.0	760.2	0.600	50.0	183.0	116.8	---	---
395	14.015	4	2	95.0	10.40	12.0	760.2	0.600	20.0	122.0	116.8	---	---
396	14.015	4	2	95.0	10.40	12.0	760.2	0.600	50.0	211.0	116.8	---	---
397	14.015	4	2	95.0	10.40	12.0	760.2	0.600	20.0	88.0	116.8	---	---
398	14.016	3	2	110.0	18.00	12.0	760.2	0.600	50.0	397.0	116.8	---	---
399	14.016	3	2	110.0	18.00	12.0	760.2	0.600	50.0	603.0	116.8	---	---
400	14.016	3	2	110.0	18.00	12.0	760.2	0.600	20.0	195.0	116.8	---	---
401	14.016	3	2	110.0	18.00	12.0	760.2	0.600	20.0	122.0	116.8	---	---
402	14.017	4	2	95.0	10.40	15.0	760.2	0.600	50.0	178.0	117.0	---	---
403	14.017	4	2	95.0	10.40	15.0	760.2	0.600	50.0	143.0	117.0	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
404	14.018	4	2	95.0	10.40	15.0	760.2	0.600	20.0	93.0	117.0	---	---
405	14.018	4	2	95.0	10.40	15.0	760.2	0.600	20.0	87.0	117.0	---	---
406	14.019	4	2	95.0	10.40	18.0	760.2	0.600	50.0	102.0	116.8	---	---
407	14.019	4	2	95.0	10.40	18.0	760.2	0.600	50.0	113.0	116.8	---	---
408	14.019	4	2	95.0	10.40	18.0	760.2	0.600	20.0	55.0	116.8	---	---
409	14.019	4	2	95.0	10.40	18.0	760.2	0.600	20.0	54.0	116.8	---	---
410	14.020	4	2	113.0	16.60	9.0	760.6	0.600	20.0	29.0	**121.5	---	---
411	14.020	4	2	113.0	16.60	9.0	760.6	0.600	50.0	45.0	**121.5	---	---
412	14.020	4	2	113.0	16.60	9.0	760.6	0.600	20.0	35.0	**121.5	---	---
413	14.021	4	2	113.0	16.60	12.0	760.6	0.600	50.0	44.0	**122.2	---	---
414	14.021	4	2	113.0	16.60	12.0	760.6	0.600	20.0	27.0	**122.2	---	---
415	14.021	4	2	113.0	16.60	12.0	760.6	0.600	50.0	40.0	**122.2	---	---
416	14.021	4	2	113.0	16.60	12.0	760.6	0.600	20.0	28.0	**122.2	---	---
417	14.022	4	2	113.0	16.60	15.0	760.6	0.600	50.0	43.0	**122.3	---	---
418	14.022	4	2	113.0	16.60	15.0	760.6	0.600	50.0	40.0	**122.3	---	---
419	14.022	4	2	113.0	16.60	15.0	760.6	0.600	20.0	30.0	**122.3	---	---
420	14.022	4	2	113.0	16.60	15.0	760.6	0.600	20.0	20.0	**122.3	---	---
421	14.023	3	2	113.0	17.10	15.0	760.6	0.600	20.0	34.0	**122.3	---	---
422	14.023	3	2	113.0	17.10	15.0	760.6	0.600	20.0	21.0	**122.3	---	---
423	14.023	3	2	113.0	17.10	15.0	760.6	0.600	50.0	36.0	**122.3	---	---
424	14.023	3	2	113.0	17.10	15.0	760.6	0.600	50.0	49.0	**122.3	---	---
425	14.024	4	2	162.0	40.50	8.0	756.7	0.600	20.0	70.0	**120.7	---	---
426	14.024	4	2	162.0	40.50	8.0	756.7	0.600	50.0	102.0	**120.7	---	---
427	14.025	3	2	209.0	111.50	8.0	756.7	0.600	20.0	29.0	**120.7	---	---
428	14.025	3	2	209.0	111.50	8.0	756.7	0.600	50.0	45.0	**120.7	---	---
429	14.026	1	2	206.0	95.80	8.0	756.7	0.600	50.0	82.0	**120.7	---	---
430	14.027	2	2	167.0	51.60	8.0	756.7	0.600	20.0	152.0	**120.7	---	---
431	14.027	2	2	167.0	51.60	8.0	756.7	0.600	50.0	235.0	**120.7	---	---
432	14.028	4	2	124.0	19.80	18.0	763.3	0.600	50.0	32.0	**121.6	---	---
433	14.028	4	2	124.0	19.80	18.0	763.3	0.600	20.0	24.0	**121.6	---	---
434	14.029	3	2	121.0	19.20	18.0	763.3	0.600	50.0	37.0	**121.6	---	---
435	14.029	3	2	121.0	19.20	18.0	763.3	0.600	20.0	22.0	**121.6	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
436	14.030	1	2	126.0	23.80	18.0	763.3	0.600	20.0	22.0	**121.6	---	---
437	14.030	1	2	126.0	23.80	18.0	763.3	0.600	50.0	31.0	**121.6	---	---
438	14.031	2	2	119.0	20.50	18.0	763.3	0.600	50.0	46.0	**121.6	---	---
439	14.031	2	2	119.0	20.50	18.0	763.3	0.600	20.0	30.0	**121.6	---	---
440	14.032	4	2	162.0	40.50	12.0	756.7	0.600	50.0	84.0	**121.2	---	---
441	14.032	4	2	162.0	40.50	12.0	756.7	0.600	20.0	61.0	**121.2	---	---
442	14.033	3	2	209.0	111.50	12.0	756.7	0.600	20.0	30.0	**121.2	---	---
443	14.033	3	2	209.0	111.50	12.0	756.7	0.600	50.0	51.0	**121.2	---	---
444	14.034	1	2	206.0	95.80	12.0	756.7	0.600	50.0	84.0	**121.2	---	---
445	14.034	1	2	206.0	95.80	12.0	756.7	0.600	20.0	55.0	**121.2	---	---
446	14.035	2	2	167.0	51.60	12.0	756.7	0.600	20.0	195.0	**121.2	---	---
447	14.036	4	2	162.0	40.50	16.0	756.7	0.600	20.0	27.0	**121.5	---	---
448	14.036	4	2	162.0	40.50	16.0	756.7	0.600	50.0	35.0	**121.5	---	---
449	14.037	3	2	209.0	111.50	16.0	756.7	0.600	20.0	37.0	**121.5	---	---
450	14.037	3	2	209.0	111.50	16.0	756.7	0.600	50.0	63.0	**121.5	---	---
451	14.038	1	2	206.0	95.80	16.0	756.7	0.600	20.0	54.0	**121.5	---	---
452	14.038	1	2	206.0	95.80	16.0	756.7	0.600	50.0	198.0	**121.5	---	---
453	14.039	2	2	167.0	51.60	16.0	756.7	0.600	20.0	160.0	**121.5	---	---
454	14.040	4	2	162.0	40.50	20.0	756.7	0.600	20.0	28.0	**121.6	---	---
455	14.040	4	2	162.0	40.50	20.0	756.7	0.600	50.0	40.0	**121.6	---	---
456	14.041	3	2	209.0	111.50	20.0	756.7	0.600	20.0	34.0	**121.6	---	---
457	14.041	3	2	209.0	111.50	20.0	756.7	0.600	50.0	57.0	**121.6	---	---
458	14.042	1	2	206.0	95.80	20.0	756.7	0.600	50.0	53.0	**121.6	---	---
459	14.042	1	2	206.0	95.80	20.0	756.7	0.600	20.0	40.0	**121.6	---	---
460	14.043	2	2	167.0	51.60	20.0	756.7	0.600	50.0	270.0	**121.6	---	---
461	14.043	2	2	167.0	51.60	20.0	756.7	0.600	20.0	51.0	**121.6	---	---
462	14.044	4	2	124.0	19.80	10.0	756.3	0.600	20.0	31.0	**121.4	---	---
463	14.044	4	2	124.0	19.80	10.0	756.3	0.600	50.0	56.0	**121.4	---	---
464	14.045	3	2	121.0	19.20	10.0	756.3	0.600	20.0	20.0	**121.4	---	---
465	14.045	3	2	121.0	19.20	10.0	756.3	0.600	50.0	49.0	**121.4	---	---
466	14.046	1	2	126.0	23.80	10.0	756.3	0.600	50.0	90.0	**121.4	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
467	14.046	1	2	126.0	23.80	10.0	756.3	0.600	20.0	46.0	**121.4	---	---
468	14.047	2	2	119.0	20.50	10.0	756.3	0.600	20.0	30.0	**121.4	---	---
469	14.047	2	2	119.0	20.50	10.0	756.3	0.600	50.0	43.0	**121.4	---	---
470	14.048	4	2	124.0	19.80	12.0	756.3	0.600	20.0	20.0	**122.3	---	---
471	14.048	4	2	124.0	19.80	12.0	756.3	0.600	50.0	33.0	**122.3	---	---
472	14.049	3	2	121.0	19.20	12.0	756.3	0.600	20.0	23.0	**122.3	---	---
473	14.049	3	2	121.0	19.20	12.0	756.3	0.600	50.0	46.0	**122.3	---	---
474	14.050	1	2	126.0	23.80	12.0	756.3	0.600	20.0	31.0	**122.3	---	---
475	14.050	1	2	126.0	23.80	12.0	756.3	0.600	50.0	55.0	**122.3	---	---
476	14.051	2	2	119.0	20.50	12.0	756.3	0.600	20.0	26.0	**122.3	---	---
477	14.052	4	2	124.0	19.80	15.0	756.3	0.600	20.0	27.0	**122.0	---	---
478	14.052	4	2	124.0	19.80	15.0	756.3	0.600	50.0	42.0	**122.0	---	---
479	14.053	1	2	126.0	23.80	15.0	756.3	0.600	20.0	29.0	**122.0	---	---
480	14.053	1	2	126.0	23.80	15.0	756.3	0.600	50.0	50.0	**122.0	---	---
481	14.054	2	2	119.0	20.50	15.0	756.3	0.600	50.0	55.0	**122.0	---	---
482	14.054	2	2	119.0	20.50	15.0	756.3	0.600	20.0	31.0	**122.0	---	---
483	14.055	3	2	121.0	19.20	15.0	756.3	0.600	20.0	41.0	**122.0	---	---
484	14.056	4	2	131.0	26.30	9.0	755.4	0.600	20.0	56.0	**118.3	---	---
485	14.056	4	2	131.0	26.30	9.0	755.4	0.600	50.0	121.0	**118.3	---	---
486	14.057	3	2	124.0	22.20	9.0	755.4	0.600	50.0	226.0	**118.3	---	---
487	14.057	3	2	124.0	22.20	9.0	755.4	0.600	20.0	128.0	**118.3	---	---
488	14.058	1	2	135.0	32.30	9.0	755.4	0.600	50.0	440.0	**118.3	---	---
489	14.058	1	2	135.0	32.30	9.0	755.4	0.600	20.0	200.0	**118.3	---	---
490	14.059	2	2	126.0	24.10	9.0	755.4	0.600	20.0	100.0	**118.3	---	---
491	14.059	2	2	126.0	24.10	9.0	755.4	0.600	50.0	230.0	**118.3	---	---
492	14.060	4	2	131.0	26.30	12.0	755.4	0.600	20.0	73.0	**119.2	---	---
493	14.060	4	2	131.0	26.30	12.0	755.4	0.600	50.0	123.0	**119.2	---	---
494	14.061	3	2	124.0	22.20	12.0	755.4	0.600	20.0	131.0	**119.2	---	---
495	14.061	3	2	124.0	22.20	12.0	755.4	0.600	50.0	250.0	**119.2	---	---
496	14.062	1	2	135.0	32.30	12.0	755.4	0.600	50.0	311.0	**119.2	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
497	14.062	1	2	135.0	32.30	12.0	755.4	0.600	20.0	220.0	**119.2	---	---
498	14.063	2	2	126.0	24.10	12.0	755.4	0.600	20.0	156.0	**119.2	---	---
499	14.063	2	2	126.0	24.10	12.0	755.4	0.600	50.0	276.0	**119.2	---	---
500	14.064	4	2	131.0	26.30	15.0	755.4	0.600	20.0	76.0	**119.2	---	---
501	14.064	4	2	131.0	26.30	15.0	755.4	0.600	50.0	96.0	**119.2	---	---
502	14.065	3	2	124.0	22.20	15.0	755.4	0.600	50.0	216.0	**119.2	---	---
503	14.065	3	2	124.0	22.20	15.0	755.4	0.600	20.0	104.0	**119.2	---	---
504	14.066	1	2	135.0	32.30	15.0	755.4	0.600	20.0	145.0	**119.2	---	---
505	14.066	1	2	135.0	32.30	15.0	755.4	0.600	50.0	235.0	**119.2	---	---
506	14.067	2	2	126.0	24.10	15.0	755.4	0.600	50.0	319.0	**119.2	---	---
507	14.067	2	2	126.0	24.10	15.0	755.4	0.600	20.0	172.0	**119.2	---	---
508	14.068	4	2	131.0	26.30	18.0	755.4	0.600	50.0	62.0	**119.6	---	---
509	14.068	4	2	131.0	26.30	18.0	755.4	0.600	20.0	45.0	**119.6	---	---
510	14.069	3	2	124.0	22.20	18.0	755.4	0.600	20.0	105.0	**119.6	---	---
511	14.069	3	2	124.0	22.20	18.0	755.4	0.600	50.0	332.0	**119.6	---	---
512	14.070	1	2	135.0	32.30	18.0	755.4	0.600	20.0	94.0	**119.6	---	---
513	14.070	1	2	135.0	32.30	18.0	755.4	0.600	50.0	205.0	**119.6	---	---
514	14.071	2	2	126.0	24.10	18.0	755.4	0.600	20.0	58.0	**119.6	---	---
515	14.071	2	2	126.0	24.10	18.0	755.4	0.600	50.0	136.0	**119.6	---	---
516	14.072	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.0	**131.4	128.4	#132.3
517	14.073	4	2	150.0	32.00	12.0	758.4	0.600	50.0	4.5	**131.4	100.4	#139.7
518	14.074	4	2	150.0	32.00	12.0	758.4	0.600	50.0	6.0	**131.4	140.0	#129.2
519	14.075	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.5	**131.4	139.0	#129.4
520	14.076	4	2	150.0	32.00	12.0	758.4	0.600	50.0	4.2	**131.4	129.2	#132.0
521	14.077	4	2	150.0	32.00	12.0	758.4	0.600	50.0	4.2	**131.4	99.2	#140.0
522	14.078	4	2	150.0	32.00	12.0	758.4	0.600	50.0	3.7	**131.4	45.9	#154.1
523	14.079	4	2	150.0	32.00	12.0	758.4	0.600	50.0	16.5	**126.4	129.4	#125.7
524	14.080	4	2	150.0	32.00	12.0	758.4	0.600	50.0	20.0	**126.4	123.8	#127.1
525	14.081	4	2	150.0	32.00	12.0	758.4	0.600	50.0	12.0	**126.4	123.8	#127.1
526	14.082	4	2	150.0	32.00	12.0	758.4	0.600	50.0	16.7	**126.4	120.2	#128.1
527	14.083	4	2	150.0	32.00	12.0	758.4	0.600	50.0	16.5	**126.4	117.4	#128.8
528	14.084	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.0	**126.4	99.5	#133.6

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
529	14.085	4	2	150.0	32.00	12.0	758.4	0.600	50.0	8.2	**126.4	95.7	#134.6
530	14.086	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.9	**126.4	93.0	#135.3
531	14.087	4	2	150.0	32.00	12.0	758.4	0.600	50.0	4.7	**126.4	44.2	#148.2
532	14.088	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.0	**141.4	307.9	# 97.3
533	14.089	4	2	150.0	32.00	12.0	758.4	0.600	50.0	2.0	**141.4	140.9	#141.6
534	14.090	4	2	150.0	32.00	12.0	758.4	0.600	50.0	2.2	**141.4	138.2	#142.3
535	14.091	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.7	**141.4	104.1	#151.4
536	14.092	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.9	**141.4	99.0	#152.7
537	14.093	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.7	**141.4	56.6	#163.9
538	14.094	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.7	**136.4	272.5	#100.4
539	14.095	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.5	**136.4	161.2	#129.9
540	14.096	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.8	**136.4	135.6	#136.7
541	14.097	4	2	150.0	32.00	12.0	758.4	0.600	50.0	2.7	**136.4	135.3	#136.8
542	14.098	4	2	150.0	32.00	12.0	758.4	0.600	50.0	3.0	**136.4	131.7	#137.7
543	14.099	4	2	150.0	32.00	12.0	758.4	0.600	50.0	2.3	**136.4	110.1	#143.4
544	14.100	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.6	**136.4	107.8	#144.0
545	14.101	4	2	150.0	32.00	12.0	758.4	0.600	50.0	2.5	**136.4	40.5	#161.9
546	14.102	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.5	**131.4	166.4	#122.2
547	14.103	4	2	150.0	32.00	12.0	758.4	0.600	50.0	5.0	**131.4	140.0	#129.2
548	14.104	4	2	150.0	32.00	12.0	758.4	0.600	50.0	4.5	**141.4	237.9	#115.9
549	14.105	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.7	**141.4	187.1	#129.4
550	14.106	4	2	150.0	32.00	12.0	758.4	0.600	50.0	1.9	**141.4	210.0	#123.3
551	14.107	3	2	110.0	18.00	15.0	760.2	0.600	20.0	320.0	117.0	---	---
552	14.107	3	2	110.0	18.00	15.0	760.2	0.600	20.0	272.0	117.0	---	---
553	15.001	2	2	60.0	----	13.6	*760.0	0.140	25.0	45.6	*119.5	50.0	138.0
554	15.001	2	2	60.0	----	13.6	*760.0	0.140	50.0	88.8	*119.5	50.0	138.0
555	15.002	2	2	60.0	----	13.6	*760.0	0.140	50.0	93.6	*119.2	75.0	131.0
556	15.002	2	2	60.0	----	13.6	*760.0	0.140	25.0	55.2	*119.2	75.0	131.0
557	15.003	2	2	60.0	----	13.6	*760.0	0.140	50.0	166.0	*119.5	114.0	121.0
558	15.003	2	2	60.0	----	13.6	*760.0	0.140	25.0	91.2	*119.5	114.0	121.0
559	15.004	2	2	60.0	----	13.6	*760.0	0.140	25.0	108.0	*119.4	159.0	109.0

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
560	15.004	2	2	60.0	----	13.6	*760.0	0.140	50.0	197.0	*119.4	159.0	109.0
561	15.005	2	2	60.0	----	13.6	*760.0	0.140	28.0	936.0	*119.2	173.0	105.0
562	15.005	2	2	60.0	----	13.6	*760.0	0.140	25.0	826.0	*119.2	173.0	105.0
563	15.006	2	2	85.0	----	13.6	*760.0	0.140	50.0	79.2	*119.3	113.0	121.0
564	15.006	2	2	85.0	----	13.6	*760.0	0.140	25.0	60.0	*119.3	113.0	121.0
565	15.007	2	2	85.0	----	13.6	*760.0	0.140	50.0	127.0	*118.7	110.0	121.0
566	15.007	2	2	85.0	----	13.6	*760.0	0.140	25.0	86.4	*118.7	110.0	121.0
567	15.008	2	2	85.0	----	13.6	*760.0	0.140	50.0	158.0	*117.6	105.0	121.0
568	15.008	2	2	85.0	----	13.6	*760.0	0.140	25.0	101.0	*117.6	105.0	121.0
569	15.008	2	2	85.0	----	13.6	*760.0	0.140	25.0	91.2	*117.6	105.0	121.0
570	15.008	2	2	85.0	----	13.6	*760.0	0.140	50.0	127.0	*117.6	105.0	121.0
571	15.008	2	2	85.0	----	13.6	*760.0	0.140	50.0	158.0	*117.6	105.0	121.0
572	15.008	2	2	85.0	----	13.6	*760.0	0.140	25.0	130.0	*117.6	105.0	121.0
573	15.009	2	2	38.0	----	13.6	*760.0	0.140	25.0	406.0	*119.4	114.0	121.0
574	15.010	2	2	46.0	----	13.6	*760.0	0.140	25.0	401.0	*119.4	114.0	121.0
575	15.010	2	2	46.0	----	13.6	*760.0	0.140	50.0	658.0	*119.4	114.0	121.0
576	15.011	2	2	100.0	----	13.6	*760.0	0.140	25.0	50.0	*119.4	114.0	121.0
577	15.011	2	2	100.0	----	13.6	*760.0	0.140	50.0	62.0	*119.4	114.0	121.0
578	15.011	2	2	100.0	----	13.6	*760.0	0.140	50.0	101.0	*119.4	114.0	121.0
579	15.011	2	2	100.0	----	13.6	*760.0	0.140	25.0	69.6	*119.4	114.0	121.0
580	15.012	2	2	60.0	----	13.6	*760.0	0.140	25.0	840.0	*119.0	229.0	90.0
581	15.013	2	2	60.0	----	13.6	*760.0	0.140	20.0	768.0	*119.0	192.0	100.0
582	16.001	1	2	59.0	2.30	8.3	*759.0	1.000	50.0	1182.0	*113.3	107.1	115.0
583	17.001	4	2	---	----	10.0	760.0	0.100	50.0	42.6	**120.9	---	---
584	17.002	4	2	---	----	10.0	760.0	0.100	50.0	16.8	**126.2	---	---
585	17.003	4	2	---	----	10.0	760.0	0.100	50.0	2.8	**140.7	---	---
586	17.004	4	2	---	----	10.0	760.0	1.000	50.0	1.6	**140.7	---	---
587	17.005	4	2	---	----	10.0	760.0	0.500	50.0	11.3	**127.5	---	---
588	17.006	4	2	---	----	10.0	760.0	0.500	50.0	5.7	**132.8	---	---
589	17.007	4	2	---	----	10.0	760.0	0.500	50.0	2.5	**140.7	---	---
590	17.008	4	2	---	----	10.0	760.0	1.000	50.0	3.7	**131.5	---	---

Table 2 (cont'd)

Record no.	Author code	Spec. code	Stage code	Length mm	Weight g	Temp. °C	BP mmHg	Depth m	Mort. %	Time hr	TGP %	O_2 %	N_2 %
591	17.009	4	2	---	----	10.0	760.0	1.000	50.0	2.2	**136.7	---	---
592	18.001	4	2	190.0	----	10.0	*754.0	0.600	50.0	54.0	120.0	---	---
593	19.001	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	10.0	**129.0	120.3	129.7
594	19.002	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	57.8	**121.8	109.6	123.3
595	19.003	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	9.2	**129.6	126.4	128.9
596	19.004	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	52.8	**121.8	114.6	122.0
597	19.005	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	73.2	**121.6	116.5	121.2
598	19.006	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	51.3	**121.7	114.6	121.8
599	19.007	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	56.3	**121.3	119.7	119.9
600	19.008	3	2	86.0	7.70	15.0	*754.0	0.600	50.0	37.0	**131.1	186.2	114.6
601	19.009	3	2	86.0	7.70	15.0	*754.0	0.600	50.0	22.3	**131.6	129.5	130.1
602	19.010	3	2	86.0	7.70	15.0	*754.0	0.600	50.0	23.3	**131.4	127.5	130.5
603	19.011	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	48.5	**122.3	112.6	123.1
604	19.012	3	2	86.0	7.70	15.0	*754.0	0.600	7.0	167.0	**121.8	170.5	107.0
605	19.013	3	2	86.0	7.70	15.0	*754.0	0.600	50.0	71.6	**122.0	117.2	121.3
606	19.014	3	2	86.0	7.70	15.0	*754.0	0.600	50.0	65.8	**121.8	114.5	121.8
607	19.015	3	2	86.0	7.70	16.0	*754.0	0.600	50.0	12.1	**128.9	126.5	127.9
608	20.001	1	3	---	----	---	756.0	0.600	50.0	240.0	---	---	118.0
609	21.001	3	3	530.0	1700.00	12.0	*754.0	0.600	20.0	100.0	**121.2	---	---
610	21.002	3	3	540.0	1800.00	12.0	*754.0	0.600	30.0	115.0	**121.2	---	---
611	21.003	3	3	540.0	1900.00	12.0	*754.0	0.600	40.0	127.0	**121.2	---	---
612	21.004	3	3	520.0	1600.00	12.0	*754.0	0.600	10.0	77.0	**121.2	---	---
613	21.005	3	3	520.0	1700.00	12.0	*754.0	0.600	20.0	667.0	**116.8	---	---
614	21.006	3	3	560.0	1700.00	12.0	*754.0	0.600	40.0	835.0	**116.8	---	---
615	21.007	3	3	540.0	1500.00	12.0	*754.0	0.600	30.0	835.0	**116.8	---	---
616	21.008	3	3	590.0	2300.00	12.0	*754.0	0.600	10.0	523.0	**116.8	---	---
617	22.001	2	2	160.0	51.00	12.0	*754.0	0.600	*50.0	104.0	**121.2	---	---
618	22.002	2	2	160.0	51.00	12.0	*754.0	0.600	* 7.0	648.0	**116.8	---	---
619	22.003	4	2	200.0	74.00	12.0	*754.0	0.600	*50.0	504.0	**116.8	---	---
620	22.004	4	2	200.0	74.00	12.0	*754.0	0.600	*50.0	48.0	**121.2	---	---
621	23.001	3	2	193.0	95.50	12.5	*754.0	0.280	70.0	504.0	**118.4	---	---

Table 3. Ranges (minimum and maximum) of depths (m) available to fish, record code (Table 2).

Author and record code		Minimum	Maximum
1	1...8	---	---[1]
2	9...41	0.00	0.80
3	42	0.00	0.025
4	43...45,48...53,57,64...66,71	0.00	0.75
4	58,59,67...69	0.75	1.00
4	54,70	1.50	2.00
4	46,55,60,62	3.00	4.00
4	47,56,61,63	0.00	4.50
5	72,75,80	0.50	1.50
5	74,76,79	2.00	3.00
5	77,81	2.50	3.50
5	73,78,82	0.00	6.00
6	83...89	---	---[1]
7	90...285	0.00	0.20
8	286...292	0.00	0.25
8	293...297	0.00	2.50
9	302	0.00	0.10
9	303,304	0.00	1.00
9	299,301	0.00	3.00
9	298,300	0.00	4.00
10	305	0.00	0.60
11	307,309	0.00	1.00
11	306,308	0.00	2.50
12	310...324	0.00	0.17
12	325...329	0.00	0.61
13	330...339	0.00	0.25
14	340...552	0.00	0.60
15	553...581	0.00	0.14
16	582	0.00	1.00
17	583...585	0.00	0.20
17	587...589	0.40	0.60
17	586,590,591	0.90	1.10
18	592	0.00	0.60
19	593...607	0.00	0.60
20	608	0.00	0.60
21	609...616	0.00	0.60
22	617...620	0.00	0.60
23	621	0.00	0.28

[1]Depth not specified.

Table 4. Errors and corrections in the review paper by Weitkamp and Katz (1980)

Page #	Line #	Author Code	Error	Correction
672	15	21	2% died at 17.2 mg O_2/litre	7% died after 167 hrs at 17.2 mg O_2/litre
672	18	12	10 cm deep	with an average water depth of 16.5 cm
673	48	12	50% mortality	54% mortality after 33 days
674	10-11	13	115% TGP	115% N_2+Ar
674	31-33	22	5% .... mortalities	3% .... mortalities
674	34-35	22	50% mortality in 21 days	50% mortality in 19 days
674	36-37	22	Sockeye ... 50% mortality ... similar times	Sockeye ...50% mortality ... 15 days
674	39-40	22	Coho ... 50% mortality ... 5.5 days	Coho ... 50% mortality ... 104 hours (4.33 days)
675	42	8	97% mortality	80% mortality
675	47	8	15% mortality ... 5% mortality	13% mortality ... 4% mortality
675	29	5	2.5 - 3.0 m	2.0 - 3.0 m
675	41-42	4	127% to 132% TGP	127% to 134% N_2+Ar
675	53	12	123% TGP	123% N_2 or 122% TGP(*)
676	13	12	19% mortality	18% mortality
676	21	12	126 - 127% TGP	125 - 126% TGP(*)
677	45	12	122% TGP	122% N_2
678	48	5	140% TGP	140% N_2+Ar
678	52	5	120% TGP	120% N_2+Ar
679	65	12	6 - 30% mortality	13.0 - 13.7% mortality
680	8-9	5	4 - 40% mortality in 14 days	4 - 44% mortality in 10 days
680	16-17	6	50 days ... 68% mortality	55 days ... 58% mortality
680	20-21	13	13.6 days ... 26.9 days	13.6 hrs ... 26.9 hrs
680	24-26	13	14.2 days ... 33.3 days ... 486 days	14.2 hrs ... 33.3 hrs ... 486 hrs
680	29-32	?	Origin of data unclear, but not from Dawley and Ebel (1975)	
683	9	15	0.2 m deep water	0.14 m deep water
683	9	15	112% TGP	119.5% TGP
683	11	15	2.7 days	27.4 days

*TGP% is calculated using the relation TGP% = (.20946)O_2% + (.79018)N_2%

Table 5. Data subset 1; including Id no. corresponding to original 621 data records, author code (Table 1), species code (1 = chinook, 2 = coho, 3 = sockeye, 4 = steelhead), TGP, depth, water temperature, fish length, BP, and ET50.

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	ET50 hr
1	315	12.004	1	111.0	0.17	11.1	101	736.0	144.0
2	316	12.005	1	111.0	0.17	11.1	80	736.0	360.0
3	317	12.006	1	111.9	0.17	11.1	67	736.0	300.0
4	318	12.007	1	111.9	0.17	11.1	53	736.0	372.0
5	319	12.008	1	114.1	0.17	11.1	101	736.0	45.6
6	320	12.009	1	114.1	0.17	11.1	82	736.0	103.2
7	321	12.010	1	122.2	0.17	11.1	97	736.0	31.2
8	322	12.011	1	122.2	0.17	11.1	96	736.0	38.4
9	323	12.012	1	122.2	0.17	11.1	95	736.0	50.4
10	324	12.013	1	122.2	0.17	11.1	45	736.0	160.8
11	325	12.014	2	122.0	0.61	11.1	77	736.0	43.2
12	326	12.015	4	122.5	0.61	11.1	69	736.0	50.4
13	327	12.016	1	122.5	0.61	11.1	99	736.0	62.4
14	328	12.017	1	122.5	0.61	11.1	82	736.0	67.2
15	329	12.018	1	122.5	0.61	11.1	54	736.0	93.6
16	331	13.001	1	117.2	0.25	15.0	120	760.0	26.9
17	333	13.002	4	117.2	0.25	15.0	124	760.0	33.3
18	334	13.003	4	111.4	0.25	15.0	130	760.0	486.0
19	337	13.005	1	122.9	0.25	15.0	117	760.0	13.6
20	341	14.001	4	115.5	0.60	10.0	79	756.5	510.0
21	342	14.002	4	115.9	0.60	12.0	79	756.5	505.0
22	343	14.002	4	115.9	0.60	12.0	79	756.5	408.0
23	348	14.003	4	116.5	0.60	15.0	79	756.5	305.0
24	349	14.003	4	116.5	0.60	15.0	79	756.5	268.0
25	350	14.004	4	116.7	0.60	18.0	79	756.5	202.0
26	353	14.004	4	116.7	0.60	18.0	79	756.5	285.0
27	354	14.005	4	117.2	0.60	9.0	102	756.2	223.0
28	357	14.005	4	117.2	0.60	9.0	102	756.2	462.0
29	358	14.006	3	117.2	0.60	9.0	105	756.2	418.0
30	361	14.006	3	117.2	0.60	9.0	105	756.2	515.0
31	364	14.007	4	117.6	0.60	12.0	102	756.2	252.0
32	365	14.007	4	117.6	0.60	12.0	102	756.2	242.0
33	366	14.008	3	117.6	0.60	12.0	105	756.2	525.0
34	369	14.008	3	117.6	0.60	12.0	105	756.2	395.0
35	371	14.009	4	117.9	0.60	15.0	102	756.2	193.0
36	373	14.009	4	117.9	0.60	15.0	102	756.2	118.0
37	376	14.010	3	117.9	0.60	15.0	105	756.2	490.0
38	377	14.010	3	117.9	0.60	15.0	105	756.2	470.0
39	380	14.011	4	118.4	0.60	18.0	102	756.2	72.0
40	381	14.011	4	118.4	0.60	18.0	102	756.2	52.0

Table 5 (cont'd)

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	ET50 hr
41	383	14.012	3	118.4	0.60	18.0	105	756.2	313.0
42	384	14.012	3	118.4	0.60	18.0	105	756.2	453.0
43	388	14.013	4	116.5	0.60	9.0	95	760.2	193.0
44	389	14.013	4	116.5	0.60	9.0	95	760.2	160.0
45	392	14.014	3	116.5	0.60	9.0	110	760.2	456.0
46	393	14.014	3	116.5	0.60	9.0	110	760.2	287.0
47	394	14.015	4	116.8	0.60	12.0	95	760.2	183.0
48	396	14.015	4	116.8	0.60	12.0	95	760.2	211.0
49	398	14.016	3	116.8	0.60	12.0	110	760.2	397.0
50	399	14.016	3	116.8	0.60	12.0	110	760.2	603.0
51	402	14.017	4	117.0	0.60	15.0	95	760.2	178.0
52	403	14.017	4	117.0	0.60	15.0	95	760.2	143.0
53	406	14.019	4	116.8	0.60	18.0	95	760.2	102.0
54	407	14.019	4	116.8	0.60	18.0	95	760.2	113.0
55	411	14.020	4	121.5	0.60	9.0	113	760.6	45.0
56	413	14.021	4	122.2	0.60	12.0	113	760.6	44.0
57	415	14.021	4	122.2	0.60	12.0	113	760.6	40.0
58	417	14.022	4	122.3	0.60	15.0	113	760.6	43.0
59	418	14.022	4	122.3	0.60	15.0	113	760.6	40.0
60	423	14.023	3	122.3	0.60	15.0	113	760.6	36.0
61	424	14.023	3	122.3	0.60	15.0	113	760.6	49.0
62	426	14.024	4	120.7	0.60	8.0	162	756.7	102.0
63	428	14.025	3	120.7	0.60	8.0	209	756.7	45.0
64	429	14.026	1	120.7	0.60	8.0	206	756.7	82.0
65	431	14.027	2	120.7	0.60	8.0	167	756.7	235.0
66	432	14.028	4	121.6	0.60	18.0	124	763.3	32.0
67	434	14.029	3	121.6	0.60	18.0	121	763.3	37.0
68	437	14.030	1	121.6	0.60	18.0	126	763.3	31.0
69	438	14.031	2	121.6	0.60	18.0	119	763.3	46.0
70	440	14.032	4	121.2	0.60	12.0	162	756.7	84.0
71	443	14.033	3	121.2	0.60	12.0	209	756.7	51.0
72	444	14.034	1	121.2	0.60	12.0	206	756.7	84.0
73	448	14.036	4	121.5	0.60	16.0	162	756.7	35.0
74	450	14.037	3	121.5	0.60	16.0	209	756.7	63.0
75	452	14.038	1	121.5	0.60	16.0	206	756.7	198.0
76	455	14.040	4	121.6	0.60	20.0	162	756.7	40.0
77	457	14.041	3	121.6	0.60	20.0	209	756.7	57.0
78	458	14.042	1	121.6	0.60	20.0	206	756.7	53.0
79	460	14.043	2	121.6	0.60	20.0	167	756.7	270.0
80	463	14.044	4	121.4	0.60	10.0	124	756.3	56.0
81	465	14.045	3	121.4	0.60	10.0	121	756.3	49.0
82	466	14.046	1	121.4	0.60	10.0	126	756.3	90.0
83	469	14.047	2	121.4	0.60	10.0	119	756.3	43.0
84	471	14.048	4	122.3	0.60	12.0	124	756.3	33.0
85	473	14.049	3	122.3	0.60	12.0	121	756.3	46.0
86	475	14.050	1	122.3	0.60	12.0	126	756.3	55.0
87	478	14.052	4	122.0	0.60	15.0	124	756.3	42.0
88	480	14.053	1	122.0	0.60	15.0	126	756.3	50.0

Table 5 (cont'd)

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	ET50 hr
89	481	14.054	2	122.0	0.60	15.0	119	756.3	55.0
90	485	14.056	4	118.3	0.60	9.0	131	755.4	121.0
91	486	14.057	3	118.3	0.60	9.0	124	755.4	226.0
92	488	14.058	1	118.3	0.60	9.0	135	755.4	440.0
93	491	14.059	2	118.3	0.60	9.0	126	755.4	230.0
94	493	14.060	4	119.2	0.60	12.0	131	755.4	123.0
95	495	14.061	3	119.2	0.60	12.0	124	755.4	250.0
96	496	14.062	1	119.2	0.60	12.0	135	755.4	311.0
97	499	14.063	2	119.2	0.60	12.0	126	755.4	276.0
98	501	14.064	4	119.2	0.60	15.0	131	755.4	96.0
99	502	14.065	3	119.2	0.60	15.0	124	755.4	216.0
100	505	14.066	1	119.2	0.60	15.0	135	755.4	235.0
101	506	14.067	2	119.2	0.60	15.0	126	755.4	319.0
102	508	14.068	4	119.6	0.60	18.0	131	755.4	62.0
103	511	14.069	3	119.6	0.60	18.0	124	755.4	332.0
104	513	14.070	1	119.6	0.60	18.0	135	755.4	205.0
105	515	14.071	2	119.6	0.60	18.0	126	755.4	136.0
106	516	14.072	4	131.4	0.60	12.0	150	758.4	5.0
107	517	14.073	4	131.4	0.60	12.0	150	758.4	4.5
108	518	14.074	4	131.4	0.60	12.0	150	758.4	6.0
109	519	14.075	4	131.4	0.60	12.0	150	758.4	5.5
110	520	14.076	4	131.4	0.60	12.0	150	758.4	4.2
111	521	14.077	4	131.4	0.60	12.0	150	758.4	4.2
112	522	14.078	4	131.4	0.60	12.0	150	758.4	3.7
113	523	14.079	4	126.4	0.60	12.0	150	758.4	16.5
114	524	14.080	4	126.4	0.60	12.0	150	758.4	20.0
115	525	14.081	4	126.4	0.60	12.0	150	758.4	12.0
116	526	14.082	4	126.4	0.60	12.0	150	758.4	16.7
117	527	14.083	4	126.4	0.60	12.0	150	758.4	16.5
118	528	14.084	4	126.4	0.60	12.0	150	758.4	5.0
119	529	14.085	4	126.4	0.60	12.0	150	758.4	8.2
120	530	14.086	4	126.4	0.60	12.0	150	758.4	5.9
121	531	14.087	4	126.4	0.60	12.0	150	758.4	4.7
122	532	14.088	4	141.4	0.60	12.0	150	758.4	5.0
123	533	14.089	4	141.4	0.60	12.0	150	758.4	2.0
124	534	14.090	4	141.4	0.60	12.0	150	758.4	2.2
125	535	14.091	4	141.4	0.60	12.0	150	758.4	1.7
126	536	14.092	4	141.4	0.60	12.0	150	758.4	1.9
127	537	14.093	4	141.4	0.60	12.0	150	758.4	1.7
128	538	14.094	4	136.4	0.60	12.0	150	758.4	5.7
129	539	14.095	4	136.4	0.60	12.0	150	758.4	1.5
130	540	14.096	4	136.4	0.60	12.0	150	758.4	1.8
131	541	14.097	4	136.4	0.60	12.0	150	758.4	2.7
132	542	14.098	4	136.4	0.60	12.0	150	758.4	3.0
133	543	14.099	4	136.4	0.60	12.0	150	758.4	2.3
134	544	14.100	4	136.4	0.60	12.0	150	758.4	1.6

Table 5 (cont'd)

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	ET50 hr
135	545	14.101	4	136.4	0.60	12.0	150	758.4	2.5
136	546	14.102	4	131.4	0.60	12.0	150	758.4	5.5
137	547	14.103	4	131.4	0.60	12.0	150	758.4	5.0
138	548	14.104	4	141.4	0.60	12.0	150	758.4	4.5
139	549	14.105	4	141.4	0.60	12.0	150	758.4	1.7
140	550	14.106	4	141.4	0.60	12.0	150	758.4	1.9
141	554	15.001	2	119.5	0.14	13.6	60	760.0	88.8
142	555	15.002	2	119.2	0.14	13.6	60	760.0	93.6
143	557	15.003	2	119.5	0.14	13.6	60	760.0	166.0
144	560	15.004	2	119.4	0.14	13.6	60	760.0	197.0
145	563	15.006	2	119.3	0.14	13.6	85	760.0	79.2
146	565	15.007	2	118.7	0.14	13.6	85	760.0	127.0
147	567	15.008	2	117.6	0.14	13.6	85	760.0	158.0
148	570	15.008	2	117.6	0.14	13.6	85	760.0	127.0
149	571	15.008	2	117.6	0.14	13.6	85	760.0	158.0
150	575	15.010	2	119.4	0.14	13.6	46	760.0	658.0
151	577	15.011	2	119.4	0.14	13.6	100	760.0	62.0
152	578	15.011	2	119.4	0.14	13.6	100	760.0	101.0
153	582	16.001	1	113.3	1.00	8.3	59	759.0	1182.0
154	592	18.001	4	120.0	0.60	10.0	190	754.0	54.0
155	593	19.001	3	129.0	0.60	16.0	86	754.0	10.0
156	594	19.002	3	121.8	0.60	16.0	86	754.0	57.8
157	595	19.003	3	129.6	0.60	16.0	86	754.0	9.2
158	596	19.004	3	121.8	0.60	16.0	86	754.0	52.8
159	597	19.005	3	121.6	0.60	16.0	86	754.0	73.2
160	598	19.006	3	121.7	0.60	16.0	86	754.0	51.3
161	599	19.007	3	121.3	0.60	16.0	86	754.0	56.3
162	600	19.008	3	131.1	0.60	15.0	86	754.0	37.0
163	601	19.009	3	131.6	0.60	15.0	86	754.0	22.3
164	602	19.010	3	131.4	0.60	15.0	86	754.0	23.3
165	603	19.011	3	122.3	0.60	16.0	86	754.0	48.5
166	605	19.013	3	122.0	0.60	15.0	86	754.0	71.6
167	606	19.014	3	121.8	0.60	15.0	86	754.0	65.8
168	607	19.015	3	128.9	0.60	16.0	86	754.0	12.1
169	617	22.001	2	121.2	0.60	12.0	160	754.0	104.0
170	619	22.003	4	116.8	0.60	12.0	200	754.0	504.0
171	620	22.004	4	121.2	0.60	12.0	200	754.0	48.0

Table 6. Data subset 2; including Id no. corresponding to original 621 data records, author code (Table 1), species code (1 = chinook, 2 = coho, 3 = sockeye, 4 = steelhead), TGP, depth, water temperature, fish length, BP, O_2, N_2, O_2/N_2, and ET50.

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	O_2 %	N_2 %	O_2/N_2 % / %	ET50 hr
1	315	12.004	1	111.0	0.17	11.1	101	736.0	77.0	120.0	0.64167	144.0
2	316	12.005	1	111.0	0.17	11.1	80	736.0	77.0	120.0	0.64167	360.0
3	317	12.006	1	111.9	0.17	11.1	67	736.0	74.0	122.0	0.60656	300.0
4	318	12.007	1	111.9	0.17	11.1	53	736.0	74.0	122.0	0.60656	372.0
5	319	12.008	1	114.1	0.17	11.1	101	736.0	73.0	125.0	0.58400	45.6
6	320	12.009	1	114.1	0.17	11.1	82	736.0	73.0	125.0	0.58400	103.2
7	321	12.010	1	122.2	0.17	11.1	97	736.0	74.0	135.0	0.54815	31.2
8	322	12.011	1	122.2	0.17	11.1	96	736.0	74.0	135.0	0.54815	38.4
9	323	12.012	1	122.2	0.17	11.1	95	736.0	74.0	135.0	0.54815	50.4
10	324	12.013	1	122.2	0.17	11.1	45	736.0	74.0	135.0	0.54815	160.8
11	325	12.014	2	122.0	0.61	11.1	77	736.0	126.0	121.0	1.04132	43.2
12	326	12.015	4	122.5	0.61	11.1	69	736.0	117.0	124.0	0.94355	50.4
13	327	12.016	1	122.5	0.61	11.1	99	736.0	117.0	124.0	0.94355	62.4
14	328	12.017	1	122.5	0.61	11.1	82	736.0	117.0	124.0	0.94355	67.2
15	329	12.018	1	122.5	0.61	11.1	54	736.0	117.0	124.0	0.94355	93.6
16	331	13.001	1	117.2	0.25	15.0	120	760.0	106.5	120.0	0.88750	26.9
17	333	13.002	4	117.2	0.25	15.0	124	760.0	106.5	120.0	0.88750	33.3
18	334	13.003	4	111.4	0.25	15.0	130	760.0	98.0	115.0	0.85217	486.0
19	337	13.005	1	122.9	0.25	15.0	117	760.0	115.0	125.0	0.92000	13.6
20	516	14.072	4	131.4	0.60	12.0	150	758.4	128.4	132.3	0.97052	5.0
21	517	14.073	4	131.4	0.60	12.0	150	758.4	100.4	139.7	0.71868	4.5
22	518	14.074	4	131.4	0.60	12.0	150	758.4	140.0	129.2	1.08359	6.0
23	519	14.075	4	131.4	0.60	12.0	150	758.4	139.0	129.4	1.07419	5.5
24	520	14.076	4	131.4	0.60	12.0	150	758.4	129.2	132.0	0.97879	4.2
25	521	14.077	4	131.4	0.60	12.0	150	758.4	99.2	140.0	0.70857	4.2
26	522	14.078	4	131.4	0.60	12.0	150	758.4	45.9	154.1	0.29786	3.7
27	523	14.079	4	126.4	0.60	12.0	150	758.4	129.4	125.7	1.02944	16.5
28	524	14.080	4	126.4	0.60	12.0	150	758.4	123.8	127.1	0.97404	20.0
29	525	14.081	4	126.4	0.60	12.0	150	758.4	123.8	127.1	0.97404	12.0

Table 6 (cont'd)

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	O_2 %	N_2 %	O_2/N_2 % / %	ET50 hr
30	526	14.082	4	126.4	0.60	12.0	150	758.4	120.2	128.1	0.93833	16.7
31	527	14.083	4	126.4	0.60	12.0	150	758.4	117.4	128.8	0.91149	16.5
32	528	14.084	4	126.4	0.60	12.0	150	758.4	99.5	133.6	0.74476	5.0
33	529	14.085	4	126.4	0.60	12.0	150	758.4	95.7	134.6	0.71100	8.2
34	530	14.086	4	126.4	0.60	12.0	150	758.4	93.0	135.3	0.68736	5.9
35	531	14.087	4	126.4	0.60	12.0	150	758.4	44.2	148.2	0.29825	4.7
36	532	14.088	4	141.4	0.60	12.0	150	758.4	307.9	97.3	3.16444	5.0
37	533	14.089	4	141.4	0.60	12.0	150	758.4	140.9	141.6	0.99506	2.0
38	534	14.090	4	141.4	0.60	12.0	150	758.4	138.2	142.3	0.97119	2.2
39	535	14.091	4	141.4	0.60	12.0	150	758.4	104.1	151.4	0.68758	1.7
40	536	14.092	4	141.4	0.60	12.0	150	758.4	99.0	152.7	0.64833	1.9
41	537	14.093	4	141.4	0.60	12.0	150	758.4	56.6	163.9	0.34533	1.7
42	538	14.094	4	136.4	0.60	12.0	150	758.4	272.5	100.4	2.71414	5.7
43	539	14.095	4	136.4	0.60	12.0	150	758.4	161.2	129.9	1.24095	1.5
44	540	14.096	4	136.4	0.60	12.0	150	758.4	135.6	136.7	0.99195	1.8
45	541	14.097	4	136.4	0.60	12.0	150	758.4	135.3	136.8	0.98904	2.7
46	542	14.098	4	136.4	0.60	12.0	150	758.4	131.7	137.7	0.95643	3.0
47	543	14.099	4	136.4	0.60	12.0	150	758.4	110.1	143.4	0.76778	2.3
48	544	14.100	4	136.4	0.60	12.0	150	758.4	107.8	144.0	0.74861	1.6
49	545	14.101	4	136.4	0.60	12.0	150	758.4	40.5	161.9	0.25015	2.5
50	546	14.102	4	131.4	0.60	12.0	150	758.4	166.4	122.2	1.36170	5.5
51	547	14.103	4	131.4	0.60	12.0	150	758.4	140.0	129.2	1.08359	5.0
52	548	14.104	4	141.4	0.60	12.0	150	758.4	237.9	115.9	2.05263	4.5
53	549	14.105	4	141.4	0.60	12.0	150	758.4	187.1	129.4	1.44590	1.7
54	550	14.106	4	141.4	0.60	12.0	150	758.4	210.0	123.3	1.70316	1.9
55	554	15.001	2	119.5	0.14	13.6	60	760.0	50.0	138.0	0.36232	88.8
56	555	15.002	2	119.2	0.14	13.6	60	760.0	75.0	131.0	0.57252	93.6
57	557	15.003	2	119.5	0.14	13.6	60	760.0	114.0	121.0	0.94215	166.0
58	560	15.004	2	119.4	0.14	13.6	60	760.0	159.0	109.0	1.45872	197.0
59	563	15.006	2	119.3	0.14	13.6	85	760.0	113.0	121.0	0.93388	79.2
60	565	15.007	2	118.7	0.14	13.6	85	760.0	110.0	121.0	0.90909	127.0

Table 6 (cont'd)

Record no.	Id no.	Author code	Spec. code	TGP %	Depth m	Temp. °C	Length mm	BP mmHg	O_2 %	N_2 %	O_2/N_2 % / %	ET50 hr
61	567	15.008	2	117.6	0.14	13.6	85	760.0	105.0	121.0	0.86777	158.0
62	570	15.008	2	117.6	0.14	13.6	85	760.0	105.0	121.0	0.86777	127.0
63	571	15.008	2	117.6	0.14	13.6	85	760.0	105.0	121.0	0.86777	158.0
64	575	15.010	2	119.4	0.14	13.6	46	760.0	114.0	121.0	0.94215	658.0
65	577	15.011	2	119.4	0.14	13.6	100	760.0	114.0	121.0	0.94215	62.0
66	578	15.011	2	119.4	0.14	13.6	100	760.0	114.0	121.0	0.94215	101.0
67	582	16.001	1	113.3	1.00	8.3	59	759.0	107.1	115.0	0.93130	1182.0
68	593	19.001	3	129.0	0.60	16.0	86	754.0	120.3	129.7	0.92753	10.0
69	594	19.002	3	121.8	0.60	16.0	86	754.0	109.6	123.3	0.88889	57.8
70	595	19.003	3	129.6	0.60	16.0	86	754.0	126.4	128.9	0.98061	9.2
71	596	19.004	3	121.8	0.60	16.0	86	754.0	114.6	122.0	0.93934	52.8
72	597	19.005	3	121.6	0.60	16.0	86	754.0	116.5	121.2	0.96122	73.2
73	598	19.006	3	121.7	0.60	16.0	86	754.0	114.6	121.8	0.94089	51.3
74	599	19.007	3	121.3	0.60	16.0	86	754.0	119.7	119.9	0.99833	56.3
75	600	19.008	3	131.1	0.60	15.0	86	754.0	186.2	114.6	1.62478	37.0
76	601	19.009	3	131.6	0.60	15.0	86	754.0	129.5	130.1	0.99539	22.3
77	602	19.010	3	131.4	0.60	15.0	86	754.0	127.5	130.5	0.97701	23.3
78	603	19.011	3	122.3	0.60	16.0	86	754.0	112.6	123.1	0.91470	48.5
79	605	19.013	3	122.0	0.60	15.0	86	754.0	117.2	121.3	0.96620	71.6
80	606	19.014	3	121.8	0.60	15.0	86	754.0	114.5	121.8	0.94007	65.8
81	607	19.015	3	128.9	0.60	16.0	86	754.0	126.5	127.9	0.98905	12.1